WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
3	Autobody refinishing : limit VOC content (use SCAQMD) at the point-of-sale	Area	3.8	
5	Install pressure vacuum (PV) valves on vent line on underground storage tanks in gasoline service stations	Area	1.9	
7	Apply more stringent LDAR to refinery fugitive emissions	Area	1.0	
33	Require sale of low VOC driveway sealer	Area		
34	Promote compact communities to facilitate public transit	Mobile		

36, 37, 39, 74	For gasoline vehicles: implement an emission-based registration fee, remote sensing and scrappage program. Goal is to remove 50% of pre-1980 vehicles	Mobile	1.7	1.0
43	Enable public reporting of vehicles with excess tailpipe smoke	Mobile		
47	Implement pilot ramp metering. Add monitoring of DRPA toll reader program	Mobile		
61, 63, 64	Transportation management plans: promote and implement ridesharing, telecomuting, compressed work weeks	Mobile	1.1	1.3

62, 84	Transportation management plans: promote and make available Transitcheks	Mobile	0.1	
71, 72, 73	Promote bicycle programs (as modified: promotional only, no improvements)	Mobile	--	--
85	Expand Stage II vehicle fueling requirement to beyond the five-county area	Mobile	3.3	--
96	Implement pilot for LPG and CNG fueling at conventional service stations. (Modify to include) Increase the number of LPG and CNG service stations.	Mobile		

99	Clean fleet replacement for institutions and large businesses. This should include school bus and post office programs	Mobile	2.9	1.7
105, 106	Encourage use of alternative fuel lawn and garden equipment, especially commercial	Area		
109	(as modified) Control emissions from airport ground-support equipment.	Area		
113, 116	Ban open burning and all lawn care on expected high ozone days	Area		
122, 123, 124	Promote educational programs in schools and business. Promote the "Green Lights" program.	Area		

Comments: Several requirements are already anticipated: 4,13 (Phase II of the MOU), 25, 38, 42, 51, 70, 76. We should at least retain the requirements that attainment with the ozone standard is maintain at the border of the region and that NOx and VOC reductions at the 50% and 25% levels are achieved outside of the area; however, some sources may actually be required to meet more stringent reduction requirements. Suggest we reconsider #38 and exclude it from the list. Also, do not implement #130.

Also, #120 (open market trading) should be implemented. It will help assist in compliance with control requirements but is not a control measures in and of itself.

Can we get more information on #23 (natural gas or oil process heaters); according to notes, this could provide substantial NOx reduction but at a very high cost. We may want to talk more about #128 (expanding reformulated gasoline beyond the five-county area); it could provide substantial VOC and NOx reductions but at a very high cost per ton.

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
3	Autobody Refinishing - SCAQMD limits	Area	3.8 TPD	
4	Surface Cleaning/Degreasing	Area	5.9 TPD	
14	Industrial Boilers - Gas/Oil LNB + FGR	Stationary		16.5 TPD
22	Reciprocating IC Engines - Nat'l Gas NSCR	Stationary		10.1 TPD

25	Industrial, Commercial, Institutional Combustion - RACT	Area		12.6 TPD
42a	Clean Diesel for SEPTA Baseline	Mobile	.47 TPD	2.19 TPD
42b	CNG for Frontier Division	Mobile	.01 TPD	.23 TPD
46	Congestion/ Incident Management on Freeways	Mobile	.16 TPD	.07 TPD
47	Ramp Metering	Mobile	.41 TPD	.034 TPD
48	Enforce 55 MPH on PA Turnpike	Mobile	.18 TPD	.63 TPD
61-64, 69-71, 73, 84	MAT	Mobile	1.84 TPD	1.78 TPD
111	Calif. Phase II Stds for engines $\geq$ 175 HP	Mobile		.08 TPD
85	Stage II outside of 5 Counties	Area	3.3 TPD	
128	Expand RFG to Selected Areas	Area	14.8 TPD	4.0 TPD
116-124, 129	Voluntary Measures	Area		

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Source Category	Control Measure	anticipated VOC reduction	anticipated NOx reduction
1	Fabric Paper Coating	SCAQMD LIMITS	5.0	0.0
14	Industrial Boilers	LNG + FGR	0.0	16.5
13	Utility Boilers	SCR	0.0	9.0
3	Auto Refinishing	SCAQMD LIMITS	3.8	0.0
4	Surface Cleaning	SCAQMD LIMITS	5.9	0.0
10	Graphic Arts	EXTEND RACT	1.5	0.0
96	Highway Vehicles	LPG PILOT	2.4	1.4
76	Highway Vehicles	NLEV	11.5	13.5
128	Highway and Off-Road Vehicles	EXPAND REFORM	14.8	4.0
99	Highway Vehicles	LDV FLEET REPLACEMENT	2.9	1.7
79	Highway Vehicles	VMT TAX .04	5.2	8.7
60	Highway Vehicles	ETRP	1.8	2.0
25	Industrial Commercial Institut. Combustion	EXTEND RACT	0.0	12.6
TOTAL			54.8	69.4

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
128*	Expanded RFG to 4 neighboring counties	Mobile	14.8	4.0
85	Stage II in entire region	Stationary	5.0	--
109	Aircraft & CSE	Mobile	3.7	2.4
76	Nat'l LEV	Mobile	11.5	13.5
42a	Clean Diesel for SEPTA	Mobile	.47	2.19
36	Remote Sensing Mobile	Mobile	1.2	0.6
25	RACT to small commercial combustors	Stationary	--	12.6
22	reciprocating IC engines	Stationary	--	9.0
20	Gas Turbines	Stationary	--	6.2
18	Glass Mfg.	Stationary	--	1.2
14	Industrial Boilder - LNB	Stationary	--	13.0
13	Utility Boilers	Stationary	--	18.3
10	Graphic Arts Low VOC Inks	Area	1.5	--
5	Gasolne UST PV Valves	Stationary	1.9	--
4	Surface Cleaning & degreasing	Area	5.9	--
3	Auto refinishing	Stationary	3.8	--

Comments: * Also provides significant reductions in toxic air emissions. Actual experience indicates costs to public are lower than projected and that toxic emission reductions exceed minimum specified by Clearn Air Act.

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
1	Industrial	Stationary		--
	Surface Coating Selected			--
	Wood Furniture		1.0	--
	Can Coating		2.2	--
	Fabric/Paper		5.5	--
	Vinyl Coating		?	--
	Metal Furniture		1.5	

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated 1999 NOx reduction
NOx MOU #13	Allowable Allocation	Stationary		3,441 tons from 1990 baseline
Comments: We need 1995, 1996 data to see full impacts, as per attached Table 7 "NOx allocation methodologies" Draft - Aug. 6, 1996 DEP.				

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
Set #1 REGULATION				
3	Auto Refinishing	Area	3.8	

12	Pesticide Reform	Area	0.3	
32	Low/No H.C. Asphalt	Area	?	
33	Driveway Sealer	Area	?	
38	Diesel Inspections	Mobile	<0.1	?
44/45	Advance Signal	Mobile	0.4	0.43
109	Aircraft/ground vehicles	Mobile/stationary (airport)	3.7	2.4
Shaded Measures				
4	Surface cleaning/degreasing	Area	5.9	--
76	Lev (NLEV/OCLEV)	Mobile	11.5	13.5
SET #2 DISCRETIONARY				
36*	Remote Sensing	Mobile	1.2	0.6
43	Smoking Vehicle H/C	Mobile	0.2	--
46	Incident Management	Mobile	0.16	0.02
47	Ramp Metering	Mobile	o.41	0.734
64**	Compressed work week	Mobile	0.21	0.27
96*	Clean Fuels/Fleets	Mobile	2.41+	1.42+
123*	"We Care" Program	Area	?	?

124	EPA Voluntary Proposals	Area/Stationary	?	?
126	Purchase ERC's	Stationary	?	?
101* **	ETR	Mobile	?	?
Shaded Measure				
51	Rail Improvements	Mobile	0.04	0.06
70	Park & Ride	Mobile	0.03	0.04
Comments: * Strategies could apply as trading strategies ** Strategies could apply as episodic or seasonal				
SET #3 TRADING				
37/74+	Scrapage	Mobile	0.5	0.4
100	AT Fuel Vehicles ___	Area Sources	?	?
105/106/107	Lawn/garden/non-road engines		?	?
119/120	Trading (OMR/CFT)	Area/Stat/Mobile	?	?
Shaded Measures				
42+	Bus Credits	Mobile	?	?
42A+	Bus Credits	Mobile	0.47	2.19
42b+	Bus Credits	Mobile	0.01	0.23
Comments: + Strategies could apply as discretionary				
SET #4 EPISODIC				
41	Curb Idling	Mobile	?	?

62++	Transit Check	Mobile	0.12	?
63++	Telecommunicating	Mobile	0.59	0.68
113	Open Burning	Area	?	?
116	DIV Lawn Care	Area	?	?
118	"No Drive" time	Mobile	?	?
117	Recreational Boating	Mobile	?	?
Comments: ++ Strategies could apply under trading				

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
#3	Autobody Refinishing	Area	3.8	
#4	Surface Cleaning Degreasing-(SCAQMD)	Area	5.9	
#5	Gasoline Service Stations - PV Valves	Area	1.9	
#10	Graphic Arts Extend RACT Small Sources	Areaa	1.5	
#12	Pesticides - CA FIP Rule	Area	0.3	

#32*	Asphalt Paving	Area	Unknown	
#34*	Transportation Land Use Planning	Area	Unknown	
#42a	Highway Vehicles Clean Diesel for SEPTA	Mobile	0.47	2.19
#44	Highway Vehicles Advanced Signal Congested Art.	Mobile	0.15	0.16
#46	Highway Vehicles Congested management on freeways	Mobile	0.16	0.07
#51	Highway Vehicles Transit - R-7 Changes	Mobile	0.04	0.06
#76*	Highway Vehicles National Lev Program	Mobile	11.5	13.5
#96	Highway Vehicles Modified - voluntary LPG Program	Mobile	Unknown	Unknown
#105*	Lawn and Garden Reduction credits	Area	Unknown	Unknown
#106*	Lawn and Garden Incentives for Lawnmowers	Area	Unknown	Unknown

#109	Aircraft - emissions Pirc and grounds Quia	Mobile	3.7	2.4
#111	Compression Ignition Engines Calif. Phase II	Mobile		0.8
#85	Highway Vehicles Stage II - Entire Region	Mobile	3.3	
#128+	Highway Vehicles Expand Reform Gas Area	Mobile	14.8	4.0
#7	Petroleum Refinery Fugitive Emission Leaks - I & M	Stationary	0.95	
#13	Utility Boilers All Types	Stationary		Unknown
#14	Industrial Boilers - All types	Stationary		16.5
#20	Gas Turbines Oil	Stationary		4.0
#21	Recipr. IC Engines Diesel Oil	Stationary		0.1
#22	Recipr. IC Engines - Natural Gas	Stationary		10.1
Comments: * Chart and large report seem to me to have different numbers				

'ORK-IN-PROGRESS
,/ROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
42 A&B	Alternative Fuel	Mobile	.47 & .01	2.19 & .23
71-73	Bicycle Improvements	Mobile	.21 & .33	.18 & .34
74	Removal Pre 1980 Vehicles	Mobile	.4	.3
96	Alternative Fuel Stations	Stationary	2.41	1.42
99	Clean fleet replacement	Mobile	2.89	1.71
125	Environmental Think Tank			
122-124	Community Education			
62 & 84	Transit Checks			

Comments:
Options 42 (including 42A and 42B), 81 and 98 are all related; however, SEPTA should not limit its study of - and conversion to - alternative-fuel vehicles to CNG and LBG propulsion. Biodiesel and Methanol (either pure methanol or as M85 mixture) should be considered, and options other than internal-combustion engines (e.g. Fuel Cells) should be tried. The three Empowerment Zones would be excellent locations for road testing demonstration models of various alternative-fuel vehicles.

Options 62 and 84 are related; the Transitchek should be extended to employees of non-profits as well as for-profits and should be considered as an additional benefit (going with the grants proposed in option 84) for non-profits promoting public transit. This should be jointly carried out by SEPTA and major corporate stakeholders.

Options 71 to 73 should be viewed as having both urban and suburban components. The suburban components should be run by SEPTA in concert with local government and the Bicycle Coalition of the Delaware Valley. In Philadelphia, SEPTA, the city government and the coalition should be working together; specifically in the Empowerment Zones, Sea Change is developing a full-rebate bicycle rental plan.

Option 74 is especially important in the inner-city, where many residents have little choice but to drive older vehicles. We suggest that Sun Company vigorously pursue its gas cap replacement program in this area as a consciousness raising prelude to vehicle replacement.

The State of Pennsylvania should be the initiator of options 96, 100 and 102. As with options 42, 81 and 98 discussed previously, we believe it is preferable to explore alternative fuels besides LBP and CNG. The state should also consider alternative fueling stations along routes other than the Pennsylvania Turnpike, as local production of alternative fuels in farm areas may prove viable, thus creating an alternative fuel industry as well as an infrastructure.

The city of Philadelphia should take the lead in initiating clean fleet replacement (option 99). Not only do they maintain a large vehicle fleet, but their example (and the availability of alternative fueling stations) should encourage other area fleet operators to switch to zero/low-emission vehicles.

Option 125 (environmental think tank) is a project that should be jointly carried out by, but not limited to, all the members of the Ozone Stakeholders Group. Participants in the think tank should be free to spend significantly more of their time in researching emission reduction solutions than

Comments continued:

the present group and should produce periodic reports of studies, proposals, etc.

Options 122-124 should be spearheaded by Sea Change with the assistance especially of Sun Company and PECO. Sea Change is currently a Green Lights endorser and has always promoted environmental education. We strongly urge public and private commitment to tree-planting; as an article in the September 17 Inquirer points out, trees and other green plants remove ozone from the atmosphere. As Sea Change has both a commercial tree farm and organic garden (and is teaching organic gardening to the community), we have been walking our talk. Additionally, we are forming a Shade Tree Commission for the Empowerment Zones and working with USDOE's Cool Communities Program to promote tree-planting not only for ozone reduction, but to reduce urban heat production.

We propose approaching residents for a $1/year contribution, to be collected by PECO along with utility bill payments. In return, emissions credits that are obtained from tree planting efforts can be transferred to PECO. If Sun Company and others embark on aggressive tree planting they will be able to derive their own emission credits.

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
41	Eliminate excess curb idling	Mobile		
45	Traffic flow improve	Mobile	0.35	0.27
46	Traffic Flow improvements	Mobile	0.16	0.07
47	Ramp Metering	Mobile	0.41	0.054
43	Smoking Vehicle Prog	Mobile		
69	Park and Ride Const.	Mobile	0.05	0.06
38	HD Truck I/M	Mobile	2.8	11.3
99	Clean Fleet Replacement LD Vehicle Conversion	Mobile	2.89	1.71
52	Fare Reduction	Mobile	2.89	1.71

109	Conversion of aircraft support to CNG or LPG	Mobile	3.2	2.7
111	Off-road, const vehicles	Mobile		
14	Indust. Boilers	Stationary		
36	More remote sensing	Mobile		
105	Lawn and Garden	Area		
106	Lawn and Garden	Area		
115	Comm Lawn care included	Area		
116	(All lawn care)	Area		
119	Cap and Trade	Stationary, Mobile, Area		
120	Open Market Trade	Stationary, Mobile, Area		

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
1*	Wood furniture point		0.1	
3**	Auto refinishing - area - SCAQMD		3.8	
4			5.9	
5			1.9	
7			1.0	
13	Oil/Gas-fired SCR			9.0
13	Coal-fired SCR			4.0
14	Coal-fired LNB			1.8
14	Gas/Oil LNB and FGR			16.5
22	NSCR			10.1

23				6.8
36			1.2	0.6
41				
61			0.3	0.33
76+			11.5	13.5
79++			5.2	8.7
128			14.8	4.0
8	Rule Effectiveness Enforcement			
25	Oil/Gas			12.3
120^				
114				
124				
129				

Comments:

* Check on potential difference in product quality
** Raise at OTC meeting for regional coordination
\+ Commitment to OTC LEV as back stop
++ State tax rebate for transportation related improvements - Title V permits will require industry to pay for pollution - car users should also
^ Allow market trade with 25% emissions tax and no trades for "no Control RACT determinations

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
1	Coatings		2.2 5.5	
3		Auto Body Refinish	10.8	
4	Surface Cleaning		5.9	
5	Gas Station Tanks		1.9	

42 and 81	SEPTA		.61	

Comments:

#3 at point of sale
I/M Program - expand anti-tampering tests

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
128	RFG~	Highway +	14.7	4.0
128a	RFG~	Non Road	?	?
85/86	Stage II	H	60-70%	--
76	Calif Car	H	.57	.79
13	Util. Boilers*	Stationary	--	SNCR 15.52
14	Industrial Boilers*	Stationary	--	SNCR 10.24
10	Graphic Arts	Stat	13.7	--
7	Petrol. Freight Em	Stat	12.5	--
22	Recip. IC-NG	Stat	--	9.0
79	$.04/VMT~~	Highway	5.2	8.7
5	UST/PV	Stat	1.8	--
48	55mph-Turnpike	Highway	0.18	0.63
51	Rail Headway	Non-road	0.042	0.063
51a	Improv. Rail Headway	NR	0.12	0.15
25	RACT - Sm. Sources	Stat	--	50%
4	Degreasing	Stat	?	--
28	Med Waste Incin.	Stat	--	0.72

Comments:
~RFG could be applied to 4 counties surrounding Philadelphia 5-county area (128) or statewide (128a)
*Counties surrounding 5-county Philadelphia area
~~Use as fund for mass transit; Also, U.S. fuel prices very low; This is NOT a large increase in gas prices.

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
61-64 71-73, 84	Mobile Altgrn. Program	Highway	0.082	0.096
70	Parking Expenses	Highway	0.027	0.043
89	Flat Tax~~	Highway	60-70%	
xx	Easy Pass	Highway	.13	--
33	Asphalt Paving*	Area	?	?
34	Land Use	Stat	?	?
36	Remote Sensing+	Highway	?	?
38	HDE IM	Highway	?	?
39	HDE Emiss. Fee^	Highway	/	?
41	Airport Curbside Idling	Non-road	?	?
42	ERC's for low emiss. buses	Highway	?	?
43	Smoking Vehicle~	Highway	?	?
83	HOV Park Incen	Highway	?	?
96	LPV Pilot	Highway	?	?
99	Clean Fuel Fleet	Highway	?	?

Comments:
~~Use as fund for mass transit.
*Commercial only.
+Use only to augment another program; Never stand alone.
^Apply to mass transit funding
~Modify to include requirement in letter for testing within 14 days.

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
102	Alt. Fuels	Highway		
105	ERC's Lawn Mower	• Non Road		
106	Incentives	• Non Road		
109	Airport	Non Road	3.24	3.69

110	Locomotive	Non Road		
111	Diesel Engine	Non Road		
	For Construction			

Comments: • 1 Hr riding Lawn Mover = 20 car miles voc
1 Hr lawn mower = 50 car miles voc
1 leaf blower = 100 car miles voc

Comments: continued

Contingency Measure: Measure to be used in the event that we do not meet either the 2005 at attainment deadline or an interim deadline. These measures should be automatically implemented. There should be an enforcement program with fines prescribed.

* DEP retain authority to retire some proportion of any ERC's created in order to reach attainment;
* #10: application of presumptive RACT to smaller sources, between 10-25 tons per summer day in the ozone season;
* #13, #14: application of RACT to smaller sources between 10 to 24 ton emission using a presumptive RACT;
* #3: apply better VOC control limits to smaller sources for autobody refinishing. A new national rule must be applied. Also, the Air Pollution Control Act allows regulation stricter than the federal minimum in order to meet the NAAQS (Act 1992-95, Section 4.2 (b)(1));
* #121: across the board emission reductions.

Long-term measures: Long-term measures for maintenance of success in air pollution control., and meeting the ozone health standard. The O3S recommends that the Governor support these measures:

* long-term mass transit funding: #79, #89, #39
* Mobility Alternative Program: #61, #62, #64, #71, #72, #73;
* Parking expansion at railway stations: #70, continued periodically & long-term.
* increasing forest cover in 5-county area to help bring down ambient air temperature; (a S.T. Rao unofficial suggestions from his presentation meeting earlier this summer);
* #3, #35, #110; nationwide standards should be set, & implemented in Pennsylvania;
* #119 should be used only as a long-term measure, after 2005; and
* #120: the open market trading proposal should never be used.;
* #34: land use measure: regulate impact fees, promote transit-oriented design, increase density near transit stations, promote mixed use development, promote infill and densification, concentrate activity centers, promote strong downtown centers, pedestrian facilities, interconnected street networks, and strategic parking facilities.

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
#13	Utility Boiler	stationary	0 Tpd	13 Tpd
#14	Industrial Boiler	stationary	0 Tpd	18.3 Tpd
#23	Process Heaters	stationary	0 Tpd	6.8 Tpd
#25	RACT to small sources	area	0 Tpd	2.19 Tpd
#42a	Clean Diesel Buses	mobile	0.47 Tpd	12.6 Tpd
#42b	Highway Vehicles	mobile	0.01 Tpd	0.23 Tpd
#46	Congestion/Incident Mgmt	mobile	0.16 Tpd	0.07 Tpd*
#61-64, 71-73	M.A.P.	mobile	1.76	1.66 Tpd
#70	Expand Parking at R.R.	mobile	0.03 Tpd	0.04 Tpd*
#74	Pre-1980 Scrappage	mobile	0.4 Tpd	0.3 Tpd
#75	Insulate catalytic converters	mobile	I Tpd	0.63 Tpd
#76	National LEV	mobile	11.5	13.5 Tpd
#96	CNG pilots	area	2.41 TPD	1.42 Tpd
#109	Aircraft	area	3.7 Tpd	2.4 Tpd
#128	Expand Refrm. gas	mobile	14 Tpd	4 Tpd
TOTAL			35.44	77.14

Comments:

* Air Quality co-benefit with congestion management

1) An overlay of a cap and trade program is assumed in order to provide some measure of private sector decision making in the process

2) The selection of strategies recognizes the following:

a) That a significant contribution to improved air quality is currently being made by regional corporations.

b) That the responsibility for air quality is borne by the entire regional population. Consequently, mobile source strategies should be applied, albeit, reasonably to achieve necessary improvements.

c) Certain strategies which directly involve the public in reasonable behavior modification practices, should be considered even though they do not yield significant VOCs or NOx reductions Public ownership of the process is essential to the improvement of regional air quality.

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
76	National Low Emission Vehicle Program	Mobile	25.0	11.5
128	Expand area where RFG is required	Mobile	18.7	14.7
14	LNB and FGR on coal-, gas- and oil-fired industrial boilers	Point		18.3
13	SCR on Coal-, gas- and oil-fired utility boilers	Point		13.0
25	RACT on small sources	Point		12.6

12	SCR on natural gas reciprocating IC engines	Point		9.0
23	LNB and FGR on gas- and oil-fired process heaters	Point		6.8
20	NSCR and water injection on oil-fired turbines	Point		6.2
109	Aircraft and ground-support equipment	Mobile	3.7	2.4
4	SCAQMD limits	Area	5.9	
42a	SEPTA acquisition of clean diesel buses	Mobile	0.5	2.2
5	Pressure vacuum valves on vent lines	Area	1.9	

WORK-IN-PROGRESS
PROPOSED PACKAGE OF CLEAN AIR STRATEGIES

Option #	Description	Emission Source (stationary, mobile, area)	anticipated VOC reduction	anticipated NOx reduction
76	N-Lev Vehicles	Model		
85	Stage II outside 5 county area	Model		
128	Expand Reform Gas outside 5 county area	Model		
105	Alternative fuels for small powered engines	Model		
33	Consumer Solvents	Model		

#36	More Remote Sensing	Light-Duty Gasoline Vehicles and Trucks	1.2	0.6
#13	LNB + Overfire Air (RACT)	Utility Boilers, Coal-Fired Boiler		
	Selective Catalytic Reduction (SCR)	Utility Boilers, Coal-Fired Boiler		4.0
	LNB	Utility Boilers, Oil/ Gas Fired Boiler		

✓ included in model runs 3a + 4a

ORK-IN-PROGRESS
ROPOSED PACKAGE OF CLEAN AIR STRATEGIES

SINGLE TEXT - DRAFT #1
Level 1 most stakeholders voted for this

# votes	Option	Description	Source	VOC	NOx
10	3	Auto refinish- limit VOC content (SCAQMD) at point-of-sale	Area	3.8	
**	4 ✓	Surface Cleaning & degreasing	Area	5.9	--
8	5	Install pressure vacuum valves on vent line on underground storage tanks in gasoline service stations	Area	1.9	and non-NOx Mob sources + SCR
9	13	Utility Boilers - SCR	Stationary	--	18.3
1	4	Industrial Boilder - LNB	Stationary	--	13.0
8	22	reciprocating IC engines - N.G. transmission ctns	Stationary	--	9.0
9	25 ✓	RACT to small commercial combustors	~~Stationary~~ Area	--	12.6
8	36	Remote Sensing	Mobile	1.2	0.6
*	42 ✓	Clean Diesel for SEPTA CNG for Frontier Division	Mobile Mobile	.47 .01	2.19 .23
7	70	Park & Ride	Mobile	0.03	0.04
*	76 ✓	NLEV	Mobile	11.5	13.5
8	96	LPG PILOT	Mobile	2.4	1.4
10	109	Aircraft/ground vehicles	Mobile Stationary	3.7	2.4
8	120	Trading Program	All	?	?
-	128	Expand RFG to Selected Areas	Mobile	14.8	4.0
	TOTAL			45.71	77.26

Phase II → III
165 ppb ozone 0.2 lb/mmBTU
→ 75% or 0.15 lb/mmBTU

* 13 stakeholders voted for these

SE Pennsylvania Ozone Stakeholders Group
Control Measures Summary (continued)

	VOC			NO_x		
Control Measure	2005 Emissions tpd	2005 Emission Reduction tpd	Cost Per Ton	2005 Emissions tpd	2005 Emission Reduction tpd	Cost Per Ton
Buy New Engines for SEPTA - CNG, LPG						
Buy New Engines for SEPTA - LNG - Fleet Replacement Program	2.8	.14 (.61 with 42a)	337,000 (78,300 with 42a)	11.3	2.4 (4.60 with 42a)	19,900 (10,400 with 42a)
Clean Fleet Replacement for Institutions, Large Businesses						
Clean Fleet Replacement for Institutions, Large Business - Light-Duty Vehicles	66.6	2.89	12,400	105.8	1.71	20,900
Voluntary ETR						
Alternative Fuel Vehicle - Build Fuel Stations						
Regional Railroad NO_x Emissions Reduction Measure	0.8	0%		8.2	2.9-3.5%	
Potential Federal NO_x Emission Standards Potential CA NO_x Emission Standards	0.8			8.2	3.3% 6.6%	
Ban on High Ozone Days						
Ban on High Ozone Days	10.9			1.1		
Across the Board Emission Reductions						
Environmental Think Tank						